UNITED STATES DISTRICT COURT
DISTRICT OF NEW HAMPSHIRE

KEVIN BROWN, individually and on behalf of all others similarly situated, *et al*., *Plaintiffs*, v. SAINT-GOBAIN PERFORMANCE PLASTICS CORPORATION, *et al*., *Defendants*.	Civil Action No. 1:16-cv-00242-JL

MEMORANDUM OF LAW IN SUPPORT OF DEFENDANTS' MOTION TO EXCLUDE PLAINTIFFS' CLASS CERTIFICATION EXPERTS

[FILED UNDER SEAL]

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

STATUTES AND RULES

TABLE OF EXHIBITS

Short Cite	Full Cite	Confidentiality	Location
4/22/2019 Hr'g Tr.	Transcript of Hearing on Motion for Class Certification and *Daubert* Motions, Day 5, April 22, 2019, *Sullivan v. Saint-Gobain Performance Plastics Corp., et al.*, No. 5:16-cv-125	None	Dkt. 187-1
Bartell Rpt.	Report of Scott M. Bartell, June 25, 2018	None	Dkt. 122-5
Bartell Tr.	Transcript of Deposition of Scott M. Bartell, June 24, 2019	Complete	Dkt. 187-4
Bartell Tr. Ex. 19	E. Van Wijngaarden *et al.*, *A simple approach to performing quantitative cancer risk assessment using published results from occupational epidemiology studies*, Science of Total Environ. 332:81-87 (2004)	None	Ex. 1
Bartell Tr. Ex. 21	S. Bartell, *Online Serum PFOA Calculator for Adults*	None	Ex. 2
Bell Rpt.	Report of Randall Bell, June 25, 2018	None	Dkt. 122-30
Bell Tr.	Transcript of Deposition of Randall Bell, June 26, 2019	Complete	Dkt. 187-5
Bell Tr. Ex. 2	Bell, R. (Mar. 30, 2017). Junk Science Versus the Scientific Method, Bloomberg BNA	None	Ex. 3
Chinkin Rpt.	Report of Lyle R. Chinkin, July 15, 2019	Complete	Dkt. 187-10
Connor Rpt.	Report of John A. Connor, July 14, 2019	Complete	Dkt. 187-11
Grandjean Rpt.	Report of Philippe Grandjean, June 22, 2018	None	Dkt. 122-4
Grandjean Tr.	Transcript of Deposition of Phillipe Grandjean, July 8, 2019	Complete	Dkt. 187-12
Grandjean Tr. Ex. 8	2019 Fourth National Report on Human Exposure to Environmental Chemicals, Volume One	None	Ex. 4

Short Cite	Full Cite	Confidentiality	Location
Grandjean Tr. Ex. 15	January 2018 Cancer Incidence Report, Merrimack NH	None	Ex. 5
Grandjean Tr. Ex. 17	J. Brodersen *et al.*, *Long-Term Psychosocial Consequences of False-Positive Screening Mammography*, Annals of Family Medicine. 11:2 (March/April 2003)	None	Ex. 6
Grandjean Vermont Rpt.	Report of Philippe Grandjean, August 1, 2018 (Vermont - *Sullivan*)	None	Ex. 7
Grandjean Vermont Tr.	Transcript of Deposition of Phillipe Grandjean, October 10, 2018 (Vermont – *Sullivan*)	None	Ex. 8
Grandjean Vermont Tr. Ex. 7	P. Weihe *et al.*, The Human Health programme in the Faroe Islands 1985-2001	None	Ex. 9
Grandjean Vermont Tr. Ex. 12	ATSDR: Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Information for Clinicians (1/18/17)	None	Ex. 10
Grandjean Vermont Tr. Ex. 13	U.S. Preventative Services Task Force Procedure Manual, December 2015	None	Ex. 11
Guzelian Rpt.	Report of Philip S. Guzelian, July 12, 2019	Complete	Dkt. 187-13
Holford Rpt.	Report of Theodore R. Holford, July 12, 2019	Complete	Dkt. 187-14
Jackson	T. Jackson, Real Property Valuation Issues in Environmental Class Actions, Environment and the Appraiser (2010)	None	https://bit.ly/2k6M1N6
Mandel Rpt.	Report of Jeffrey H. Mandel, July 16, 2019	Complete	Dkt. 187-17
Mich. PFAS Rpt.	S. Bartell *et al.*, Scientific Evidence and Recommendations for Managing PFAS Contamination in Michigan	None	https://bit.ly/2FZS4f1
MMA Rpt.	Report of McDonald Morrissey Associates, LLC, July 12, 2019	Complete	Dkt. 187-18

Short Cite	Full Cite	Confidentiality	Location
New Hampshire Public Radio	New Hampshire Public Radio, "State Will Require More PFAS Testing at Merrimack's Watson Park, a Former Industrial Site," July 5, 2018	None	https://bit.ly/2lzMgk2
NHDES Oct. 30, 2017 Meeting	Summary of Oct. 30, 2017 Meeting between NHDES and Saint-Gobain	None	Ex. 12
NHDES PFAS Sampling Map	NHDES PFAS Sampling Map, 200 Bouchard St., Manchester, NH	None	Dkt. 188
Phillips Rpt.	Report of Trevor E. Phillips, July 11, 2019	Complete	Dkt. 188-1
Schwartz Rpt.	Report of Sorell L. Schwartz, July 30, 2019	Complete	Ex. 13
Sullivan Rpt.	Report of David A. Sullivan, June 22, 2018	None	Dkt. 122
Sullivan Rpt. Ref. 27	NHDES Air Stationary Source Information regarding Saint-Gobain Facility	None	Ex. 14
Sullivan Rpt. Ref. 30	List of Companies for Which No Further Investigation is Deemed Necessary by NHDES as Part of Southern NH PFOA in Drinking Water Investigation, January 27, 2017	None	Dkt. 188-2
Sullivan Tr.	Transcript of Deposition of David A. Sullivan, June 20, 2019	Complete	Dkt. 188-3
Sullivan Tr. Ex. 2	Barr Preliminary Air, Soil, and Water Modeling Technical Memorandum: Merrimack, New Hampshire, June 2017	Complete	Dkt. 188-4
Vernon Rpt.	Report of James H. Vernon, June 26, 2018	None	Dkt. 122-28
Vernon Tr.	Transcript of Deposition of James H. Vernon, July 5, 2019	Complete	Dkt. 188-7
Vernon Tr. Ex. 4	March-May 2018 Email, "Merrimack Village Hydraulic Modeling"	None	Ex. 15
Vernon Tr. Ex. 5	May 29, 2018 Table of Tasks	Complete	Dkt. 188-8

Short Cite	Full Cite	Confidentiality	Location
Vernon Tr. Ex. 8	Agreement between The Hannon Law Firm and Wright-Pierce for Litigation Support Services for Merrimack Village Hydraulic Modeling, June 30, 2019	None	Ex. 16
Vernon Tr. Ex. 9	Letter to Hannon re "Litigation Support Services for Merrimack Village Hydraulic Modeling," June 27, 2019	None	Ex. 17
Vernon Tr. Ex. 13	Existing Distribution Mains Map, Merrimack, NH, November 12, 2014	None	Ex. 18
Vernon Tr. Ex. 16	ATSDR: Feasibility Assessment for Epidemiological Studies at Pease International Tradeport, Portsmouth, New Hampshire, November 2017	None	Ex. 19
Weed	D. Weed, Weight of Evidence: A Review of Concept and Methods, Risk Analysis 25:1545-57, 2005.	None	https://bit.ly/2lE56qo

PRELIMINARY STATEMENT

Plaintiffs proffer five experts in support of their pending motion to certify several putative classes of persons allegedly affected by the ubiquitous chemical PFOA. The testimony of Plaintiffs' class certification experts is inadmissible because it lacks "fit," or relevance, to class certification. Expert testimony fits class certification where it shows that an element of Rule 23 can be established by common proof. But none of Plaintiffs' experts even purports to establish anything as to any particular member of the putative class, much less anything amenable to class-wide proof. Instead, Plaintiffs' experts rely on the convenient fiction of "average" or "hypothetical" class members—or ignore them all together—to gloss over the individual issues that pervade their claims. None of their expert testimony can support class certification because they cannot prove anything about any putative class member, much less so on a common basis.

Plaintiffs' expert testimony is also unreliable. Plaintiffs' medical monitoring experts lack reliability because, among other things, they failed to consider any of the admittedly varied individual circumstances of the Plaintiffs and putative class members. Likewise, Plaintiffs' fate and transport experts' opinions fail to account for myriad individualized issues regarding Plaintiffs' and class members' alleged exposure to PFOA and the sources of the PFOA to which they were allegedly exposed. Plaintiffs' property value diminution expert's testimony is unreliable because he has not specified what methodology he plans to use, has not applied his own methodology stated in his prior published work, and has not shown that he has any method capable of resolving inherently individualized valuation issues on a class-wide basis.

Because of the large volume of Plaintiffs' class certification expert testimony, even this omnibus brief is insufficient to catalog all methodological and other errors. Defendants address

the errors below for illustrative purposes, and without waiver of similar or other defects, which are addressed in Defendants' expert reports and incorporated herein.

Philippe Grandjean, M.D. (Medical Monitoring): Plaintiffs proffer Dr. Grandjean in support of class-wide medical monitoring for an array of alleged ailments in individuals who (a) drank water with 70 ppt or more of PFOA, or (b), prior to age 20, drank water with 20 ppt or more of PFOA. Grandjean Rpt. at 9. These opinions suffer from fundamental methodological flaws. Dr. Grandjean invokes assumptions about a hypothetical class member's personal characteristics that he applies across the entire class. [redacted]

Dr. Grandjean's general causation opinion is also unreliable. [redacted] Nor does he disclose with any rigor what principles guided his selection and evaluation of the scientific literature, or whether his causal analysis adhered to any such principles. [redacted]

[redacted]

Scott Bartell, Ph.D. (Medical Monitoring): Plaintiffs also proffer the opinions of Dr. Bartell in support of class-wide medical monitoring. Dr. Bartell's opinions are inadmissible for many of the same reasons as Dr. Grandjean's. He purports to evaluate the putative class's collective risks from PFOA exposure, but his analysis is divorced from data as to the quantity of water any individual actually drinks or how it varies from person to person. [redacted]

David Sullivan (Air Transport/Fate and Transport): Mr. Sullivan opines that Saint-Gobain is "the source of the high levels of PFAS contamination measured throughout the [proposed class area]." Sullivan Rpt. at 11. [redacted] But Mr.

Sullivan has not proffered a method to reliably determine, on a class-wide basis, the essential elements of injury and causation, including whether PFOA from Saint-Gobain actually reached each putative class member's property and/or each putative class member's drinking water above certain identified levels. His approach is fundamentally unscientific *ipse dixit*.

James Vernon, Ph.D. (Public Water Distribution): Dr. Vernon is a hydrogeologist who purports to assess PFAS transport through the Merrimack Village District Water Works ("MVDWW") system. He says his "mass balance" methodology will allow him to "calculate average PFAS concentrations in the System, at selected times." Vernon Rpt. at 4. Yet the particular blend of source water—and, thus, the particular PFAS concentrations—received by individual MVDWW customers would have varied significantly. *See, e.g.*, *id.* at 2. [redacted].

Because Dr. Vernon admits that his mass-balance methodology "only yields a system-wide average," Vernon Rpt. at 4, it cannot account for individualized exposure issues among members of the putative public water classes. [redacted]

Plaintiffs have effectively conceded these deficiencies. [redacted] Instead, Plaintiffs recently retained new experts to apply a different method: development of a hydraulic water distribution system model to "assess the potential concentrations

of [PFAS] to which users of the [MVD system] may have been exposed." Vernon Tr. Ex. 9 at 1; *accord id.* Ex. 8. [redacted]

Randall Bell, Ph.D. (Property Value Diminution): [redacted]

Moreover, Dr. Bell has not shown that he has any method that can reliably do what Rule 23 requires: that is, to provide a common means of determining diminution in value for every member of the putative class in one stroke.

THRESHOLD SCRUTINY OF EXPERT TESTIMONY

District courts perform the crucial gatekeeping function of determining the admissibility of expert testimony. *Daubert v. Merrell Dow Pharm., Inc*. 509 U.S. 579 (1993). "Federal Rule of Evidence 702 'assign[s] to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand.'" *Cipollone v. Yale Indus. Products, Inc.*, 202 F.3d 376, 380 (1st Cir. 2000) (quoting *Daubert*, 509 U.S. at 597).

The proponent of expert testimony "bears the burden of showing that the testimony satisfies Rule 702." *MMG Ins. Co. v. Samsung Elecs. Am., Inc.*, 293 F.R.D. 58, 63 (D.N.H. 2013) (Laplante, J.). Expert testimony is admissible only if (1) it "is based on sufficient facts or data"; (2) it "is the

product of reliable principles and methods"; and (3) "the expert has reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702(b)-(d). Not only must an expert "qualified to give an opinion on the subject in question," but also "the expert's proposed testimony must be relevant and reliable." *Bourne v. Town of Madison*, 2007 WL 1447672, at *3 (D.N.H. May 9, 2007) (internal citations omitted). The expert must employ "in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

Under Rule 702's reliability requirement, an expert's opinion must be based on "the methods and procedures of science," rather than mere "subjective belief or unsupported speculation." *Daubert*, 509 U.S. at 590; *see also Grimes v. Hoffman-LaRoche, Inc.*, 907 F. Supp. 33, 35 (D.N.H. 1995). Several general factors should be considered for determining reliability. These include: (1) whether "the theory ... can be (and has been) tested," *Daubert*, 509 U.S. at 593; (2) whether the theory has been subjected to evaluation by peer review and publication, *id*.; (3) the known or potential error rate, *id*.; (4) adherence to applicable standards, *id*. at 594; and (5) whether the theory has been generally accepted in the scientific community. *Id.* Although these factors are non-exclusive, they "form the basis for a flexible inquiry into the overall reliability of a proffered expert's methodology." *Bourne*, 2007 WL 1447672, at *4 (internal citation omitted). In addition, "[a] court may conclude that there is simply too great an analytical gap between the data and the opinion proffered" and preclude the testimony. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). A court should exclude expert testimony "that is connected to existing data only by the *ipse dixit* of the expert." *Id.*

Under Rule 702's "fit" requirement, the proponent must establish "a connection between the expert's testimony and the facts of the case." *Grimes*, 907 F. Supp. at 35. "As the gatekeeper,

the trial judge has the duty to insulate the jury from expert testimony when reliance on authoritative studies and methods threatens to mask the lack of an adequate fit." *Samaan v. St. Joseph Hosp.*, 670 F.3d 21, 35 (1st Cir. 2012); *see also Grimes*, 907 F. Supp. at 35.

The trial court's gatekeeping function must be performed not only at trial, but also at the class certification stage. The Supreme Court has expressed "doubt" that expert testimony could be admitted for class certification without satisfying the *Daubert* standard. *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 354-55 (2011). A majority of the courts of appeals that have considered the question hold that *Daubert* and Rule 702 apply when deciding whether it is appropriate to certify a class. *In re Blood Reagents Antitrust Litig.*, 783 F.3d 183, 187 (3d Cir. 2015); *Am. Honda Motor Co. v. Allen*, 600 F.3d 813, 815-16 (7th Cir. 2010); *Sher v. Raytheon Co.*, 419 F. App'x 887, 890-91 (11th Cir. 2011); *Unger v. Amedisys Inc.*, 401 F.3d 316, 323 n.6 (5th Cir. 2005). Although the First Circuit has not squarely addressed the issue, it has found in a pre-*Dukes* decision that, when evaluating a motion to certify a class, trial courts must "engage in a searching inquiry into the viability of [an expert's theory] and the existence of facts necessary for the theory to succeed." *In re New Motor Vehicles Canadian Export Antitrust Litig.*, 522 F.3d 6, 26 (1st Cir. 2008).

Experts proffered in support of class certification must be able to "fully answer … relevant questions" to the Rule 23 requirements, including showing that Plaintiffs' case is "amenable to the class action mechanism." *Id.* at 27, 29; *see also In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d 305, 323-25 (3d Cir. 2008); *Dukes*, 564 U.S. at 350. Because "class actions are the aggregation of individual claims, and do not create a class entity," it is not sufficient that such evidence determine some issue "on behalf of 'the class.'" *In re Asacol Antitrust Litig.*, 907 F.3d 42, 56 (1st Cir. 2018). Rather, the evidence must show that there is a reliable method to "resolve an issue that is central to the validity of ***each one of the claims*** in one stroke." *Parent/Prof. Advoc. League v. City of*

Springfield, Massachusetts, 2019 WL 3729033, at *10 (1st Cir. 2019) (citing *Dukes*, 564 U.S. at 350) (emphasis added). A "common question is one where the same evidence will suffice for each member to make a prima facie showing or the issue is susceptible to generalized, class-wide proof." *Tyson Foods, Inc. v. Bouaphakeo*, 136 S. Ct. 1036, 1045 (2016) (internal citation omitted). If a class certification expert cannot show that claims can be resolved on a class-wide basis, or cannot do so reliably, his testimony is not admissible. *Sher,* 419 F. App'x at 890-91.

ARGUMENT

I. PLAINTIFFS' MEDICAL MONITORING EXPERTS' OPINIONS ARE INADMISSIBLE

The opinions of Plaintiffs' medical monitoring experts do not reliably support or fit the elements of Rule 23 for three fundamental reasons. ***First***, Drs. Grandjean and Bartell do not address the many considerable individual differences among putative class members but, instead, assume "average" quantities of water consumption, while ignoring individual variation and sources of water. ***Second***, Drs. Grandjean and Bartell propose class-wide medical monitoring but fail to identify its components, how it would differ from any individual's routine medical care, or whether its harms outweigh its purported benefits. ***Third***, Drs. Grandjean's and Bartell's opinions are incapable of demonstrating that Plaintiffs' alleged exposures constitute a class-wide injury. To the extent these opinions follow any discernible methodology, their analyses are subjective, litigation-driven, and contrary to well-developed principles for evaluating causation.

A. Plaintiffs' Experts Rely On Speculative Assumptions

Plaintiffs proffer the opinions of Drs. Grandjean and Bartell in support of their contention that their medical monitoring claims present common issues, including PFOA and PFOS exposure, causation, and availability of medical monitoring that is "reasonably necessary" and "different from what would be prescribed in the absence of [PFAS] exposure" for the proposed class. *See* Dkt. 121-1 at 31-37. Their experts' opinions cannot support that contention. [redacted]

[redacted] In the place of data about the quantity of water any Plaintiff drinks or its sources, they invoke assumptions about "average" estimates of hypothetical residents. Plaintiffs "cannot circumvent" their burden to show that their claims can be resolved through common evidence "by simply relying on assumptions about the general population." *Rowe v. E.I. duPont de Nemours & Co.*, 2008 WL 5412912, at *14 (D.N.J. 2008).

Expert opinions based on "a uniform set of assumptions" as to "hypothetical residents" are inadmissible because they fail to describe the damages of the members of the putative class. *Gates v. Rohm & Haas Co.*, 655 F.3d 255, 266 (3d Cir. 2011). As the Third Circuit explained in *Gates*, an "average" is not "common" evidence:

> Plaintiffs cannot substitute evidence of exposure of actual class members with evidence of hypothetical, composite persons in order to gain class certification .... The evidence here is not "common" because it is not shared by all (possibly even most) individuals in the class. Averages or community-wide estimations would not be probative of any individual's claim because any one class member may have an exposure level well above or below the average.

Id. (citations omitted). Or as the district court put it: "[A]n average is an average is an average ..., in essence, a convenient fiction made up of numbers that are higher and lower than the average." *Gates v. Rohm & Haas Co.*, 265 F.R.D. 208, 222 n.25 (E.D. Pa. 2010), *aff'd*, 655 F.3d 255 (3d Cir. 2011). "[A]verages are just that, and not specific to any individual." Holford Rpt. at 8. Indeed, assumptions about the proposed class are "undoubtedly false, as the class contains thousands of individuals who are different sizes and have different water consumption habits." *Rowe*, 2008 WL 5412912, at *13. If an expert "cannot demonstrate [the alleged] impact for individual class members," it is an "insurmountable *Daubert* fit problem." *In re Pharmacy Benefit*

Managers Antitrust Litig., 2017 WL 275398, at *20 (E.D. Pa. 2017). Likewise, no interpretation of *Daubert* permits an expert to ignore the relevant data in favor of an assumption. *See Barber v. United Airlines, Inc.*, 17 F. App'x 433, 437 (7th Cir. 2001). Drs. Grandjean and Bartell's opinions are not relevant to class certification because they do not reliably provide a common basis to find that medical monitoring is necessary for the actual members of the putative class.

1. Plaintiffs' Experts Ignore Considerable Individual Differences

[redacted] He concedes that "[e]very individual has his or her own background risk of developing the diseases in question." Grandjean Vermont Rpt. at 69. [redacted] Which is, after all, the point.

These are not academic considerations. Drs. Grandjean and Bartell state that any individual in the proposed class area who consumed any quantity of water with 70 ppt (for adults) or 20 ppt (for juveniles) of PFOA, with any frequency during a one-year period of time, should receive medical monitoring. Grandjean Rpt. at 60; Bartell Rpt. at 5. [redacted] To be sure, "[t]he idea that the 'dose makes the poison' is a central tenet of toxicology." Reference Manual on Scientific Evidence ("RMSE") at 603 n.160 (3d ed. 2011); *see also* Grandjean Vermont Tr. at 65:24-66:12. Thus, as Dr. Grandjean concedes, "[r]egarding adverse health risks, the ***key parameter*** is therefore the ***amount*** of PFOA ingested over time, rather than the water concentration alone." Grandjean Rpt. at 9 (emphasis added). [redacted]

Drs. Grandjean and Bartell take none of these individual differences into account. [redacted] Plaintiffs' experts lack any basis to assess the routine medical care Plaintiffs receive, whether it is representative of the putative class, and whether any proposed diagnostic testing would differ from what is already provided.

2. Plaintiffs' Experts' Opinions Are Untethered From The Real World

By ignoring the range of individual differences or by replacing them with estimated "averages," Plaintiffs' experts' opinions do not reflect the real world or "fit the facts of the case." *Owens v. Auxilium Pharma., Inc.*, 895 F.3d 971, 973 (7th Cir. 2018). Both experts' opinions concern "hypothetical" plaintiffs, not the actual Plaintiffs or putative class members. They rely on common assumptions to presume that the same medical testing should be provided for the entire proposed class. But an expert may not "assum[e] the very fact that he has been hired to prove." *Clark v. Takata Corp.*, 192 F.3d 750, 757 (7th Cir. 1999); *see also Rowe*, 2008 WL 5412912, at *14. Nor is that burden excused even if it "would take significant investigative efforts." *Rowe*, 2008 WL 5412912, at *14. An opinion "based solely on … belief and assumption without any scientific testing data or supporting research material" is inadmissible. *Clark*, 192 F.3d at 758.

a. Modeled Exposure Does Not Reflect Real Water Consumption

[redacted]

[redacted]

Dr. Bartell impermissibly substitutes assumptions about hypothetical residents for actual data regarding practices and characteristics of real Plaintiffs. [redacted]

b. Dr. Bartell's "Risk Calculations" Lack Scientific Rigor

Nor do Dr. Bartell's so-called "risk calculations" offer reliable predictions concerning PFOA exposure. An expert must demonstrate "a sufficiently rigorous … connection between [his] methodology and [his] conclusions" to establish reliability under Rule 702. *Nimely v. City of New York*, 414 F.3d 381, 396 (2d Cir. 2005). Because Dr. Bartell fails to employ reliable data and methods, his opinion cannot meet Rule 702's requirements and his opinion should be excluded.

"The risk assessment method provides no evidence of actual common exposure; instead, it attempts to characterize exposure as common by glossing over the many individualized issues underlying this element." *Rowe*, 2008 WL 5412912, at *15. "[T]he problem is that the underlying assumptions are not necessarily true for all class members-indeed, they are undoubtedly false, as the class contains thousands of individuals who are different sizes and have different water consumption habits." *Id.* at *13. A risk assessment "based on the reported averages of [individuals'] characteristics within the general population … establishes nothing more than an

assumption of common exposure." *Id.* Since "an individual's exposure does in fact change based on the exact variables" that Dr. Bartell replaces with population-wide estimates, *id.*, he improperly "assume[s] the very fact that he has been hired to prove." *Clark*, 192 F.3d at 757.

Dr. Bartell's "risk calculations" result from his attempt to adopt multiple models, each with limitations that also undermine the reliability of his opinion. To perform the "risk calculations" for each health outcome, Dr. Bartell's model—an adaptation of a self-described "simple" approach designed to be "applied using a hand calculator or spreadsheet," Bartell Tr. Ex. 19 at 81—sacrifices accuracy for simplicity. That model's authors acknowledge as much: "the approach presented here ignores the variation across individuals in their susceptibility to potential hazards in the environment which may reflect differences in exposure, genetic heterogeneity, age, gender, nutrition, use of medication, and underlying health status." *Id.* at 85.

Dr. Bartell compounds this problem by using flawed predictions of PFOA blood serum concentrations and cherry-picking data on supposed health risks. First, his risk calculations depend on a model for predicting "average values" of PFOA serum concentrations from the consumption of water. Bartell Rpt. at 75; Bartell Tr. Ex. 21 at 3. [redacted] "Plaintiffs have the burden of proving that each class member has suffered significant exposure to PFOA—they cannot circumvent this requirement by simply relying on assumptions about the general population." *Rowe*, 2008 WL 5412912, at *14; *accord Rink*, 203 F.R.D. 648, 661 (M.D. Fla. 2001), *aff'd*, 400 F.3d 1286 (11th Cir. 2005). Dr. Bartell's attempt to do so leaves unresolved the fundamental problem with his model that, like in *Rowe*, "the

underlying assumptions … are undoubtedly false, as the class contains thousands of individuals who are different sizes and have different water consumption habits." 2008 WL 5412912, at *13.

[redacted] Yet his report and testimony lack the detail necessary to audit his selection of those studies, nor does he explain whether their reported findings and exposures are representative of the broader literature for a given health endpoint. [redacted]

c. Monitoring Based On Assumed Uniformity Can Cause Harms

[redacted] Accordingly, the U.S. Centers for

Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) do not recommend medical monitoring of an asymptomatic population based on their exposure to PFOA. Grandjean Vermont Tr. Ex. 12 at 28; Grandjean Vermont Tr. at 168:4-8.

"One of the basic and most useful tools in diagnosis and treatment of disease is the patient's medical history," which is "widely recognized" to "involve[] the questioning and examination of the patient as well as appropriate medical testing" and examination of "written medical records." RMSE 670-71. [redacted]

This testimony is irreconcilable with the notion of class-wide evidence of injury and the utility of medical monitoring, as other federal courts have held in other PFOA litigation seeking medical monitoring. Due to the "many individualized issues" concerning each class member's "background risk of disease and susceptibility to PFOA," "each class member would … have to demonstrate his/her specific exposure, how that exposure has increased his/her risk of disease, and

his/her corresponding need for medical monitoring, all of which would require medical expert testimony ***specific to each individual***." *Rowe*, 2008 WL 5412912, at *17, 20-21 (emphasis added); *see also Rhodes v. E.I. duPont de Nemours & Co.*, 253 F.R.D. 365, 374-76 (S.D. W. Va. 2008). Disconnected from the population at issue and its considerable variability, Drs. Grandjean's and Bartell's generalized opinions cannot support class certification and should be excluded.

B. Plaintiffs' Experts Do Not Propose A Specific Monitoring Regimen

The opinions of Drs. Grandjean and Bartell should be excluded for failing to answer the foundational issue of what medical monitoring should be available to the proposed class. Neither expert describes a specific plan for the proposed monitoring, what its components would be, or how long it should last. Despite his opening assertion that his report "pertains to the establishment of a medical monitoring program for persons who were significantly exposed to PFOA," Grandjean Rpt. at 1, [redacted]

[redacted]

This "Trust Me, But Wait" approach "ask[s] this Court to rely too heavily on their promises that they will be able to formulate the appropriate analysis … once they obtain the necessary data." *In re Graphics Processing Units Antitrust Litig.*, 253 F.R.D. 478, 505 (N.D. Cal. 2008). An expert's promises that he ***can*** "develop and implement" a workable class-wide methodology do not substitute for an "***actual method***." *Fox Test Prep v. Facebook, Inc.*, 588 F. App'x 733, 734 (9th Cir. 2014). "[B]are-bones" reports that "do[] not demonstrate in adequate detail how [the] proposed 'approaches' would be used" do not suffice. *Weiner v. Snapple Beverage Corp.*, 2010 WL 3119452, at *7 (S.D.N.Y. 2010); *see also In re Dial Complete Mktg. & Sales Practices Litig.*, 312 F.R.D. 36, 78 (D.N.H. 2015). "[T]he absence of any indication that [an expert] has considered whether, and how, his proposed methodology could account for the specific circumstances of this case," including whether "causation and injury can be proven on a class-wide basis" renders the opinion "speculative and, therefore, unreliable." *Weiner*, 2010 WL 3119452, at *8.

A specific proposal is critical to determining whether medical monitoring is, as Plaintiffs pose it, "reasonably necessary" or "different from what would be prescribed in the absence of [PFAS] exposure" for the proposed class, collectively. Dkt. 121-1 at 31. Having no such proposal, Drs. Grandjean and Bartell cannot explain how monitoring would differ from each putative class member's existing medical care. Nor can they evaluate whether the potential benefits of monitoring would outweigh its harms. Without answers to these questions, their opinions lack a reliable foundation and fail to "fit the facts of the case." *Owens*, 895 F.3d at 973.

1. Plaintiffs' Experts Provide Promises But Not A Monitoring Proposal

[redacted] Plaintiffs' experts' recommendations for medical monitoring embody none of these considerations.

a. Lack Of Specific Medical Conditions

Dr. Grandjean fails to limit his recommendation for monitoring to specific medical conditions. Grandjean Rpt. at 19-54, 61. [redacted] Dr. Bartell's likewise refer to abstractions such as "immune function." Bartell Rpt. at 5, 22.

b. No Analysis Of Improved Outcomes Through Early Detection

[redacted] While Dr. Grandjean agrees with these principles, Grandjean Vermont Tr. at 178:11-179:3, [redacted] His report offers only conclusory assertions that early detection through medical monitoring could improve the treatment for any health outcome he identifies. Grandjean Rpt. at 61. [redacted]

[redacted]

Dr. Bartell's opinion exhibits the same flaw. Despite acknowledging that a test to detect disease early must exist before undertaking medical monitoring, Bartell Rpt. at 22, his report does not discuss whether the "examples" he proffers permit detection prior to the development of symptoms. [redacted]

c. Failure To Evaluate The Accuracy of Screening Tests

Nor do Plaintiffs' experts consider the false positive or false negative results that accompany screening tests. [redacted]

[redacted]

d. Failure To Consider Harms Of Proposed Testing

Having failed to address their inchoate medical monitoring recommendations to specific medical conditions whose outcomes can be improved through early detection with specific tests, Drs. Grandjean and Bartell also lack a reliable basis to opine that medical monitoring is advisable.

[redacted]

The U.S. Preventive Services Task Force has long cautioned as to the risks of medical screening. Grandjean Vermont Tr. Ex. 13 at 43. A false-negative test result can lead to a delay in diagnosis and treatment, Grandjean Vermont Tr. at 184:9-13, 187:2-13, [redacted]

[redacted]

Both experts acknowledge these concerns, but only in the abstract. Dr. Grandjean states that when considering a diagnostic test, "[y]ou first want to do no harm." 4/22/19 Hr'g Tr. at 131:4-10. He agrees that medical monitoring should be performed only after weighing its potential benefits and harms. Grandjean Vermont Tr. at 180:14-181:2. And he says this process should weigh impacts to a patient's physical and mental health. *Id.*; *see also id.* at 180:2-9. Thus, it "would be normal" to consider the "whole range of possible risks" and benefits of medical monitoring into account, when assessing its utility. *Id.* at 175:10-14, 180:14-181:2. Yet his opinion simply does not account for the risks of medical monitoring. [redacted]

[redacted]

[redacted]

2. Plaintiffs' Experts Cannot Opine That Monitoring Would Differ From Routine Medical Care

Although Plaintiffs acknowledge that medical monitoring should be "different from what would be prescribed in the absence of [PFAS] exposure" for the proposed class, Dkt. 121-1 at 31, Drs. Grandjean and Bartell cannot reliably opine that any diagnostic testing would differ from what any Plaintiff already receives. In ordering Plaintiffs to produce their medical records, this Court recognized the importance of medical records to show how any proposed medical monitoring would be required "beyond what otherwise has been or would be prescribed." Dkt. 143 at 4.

[redacted]

[redacted]He also agrees that screening and other preventive interventions are intended to prevent or delay an ***individual's*** future health problems. Grandjean Vermont Tr. at 192:17-193:20. After all, clinical medicine is an individual inquiry. 4/22/19 Hr'g Tr. at 46:10-11; *see also* Grandjean Vermont Tr. at 42:3-5.

[redacted]

Interviewing the Plaintiffs or reading their medical records would have revealed the variety of "particular circumstances" that preclude class-wide, testing recommendations. [redacted]

C. Plaintiffs' Experts Cannot Show General Causation

The opinions of Drs. Grandjean and Bartell should be excluded for the additional reason that their underlying analyses are flawed and, thus, incapable of demonstrating that Plaintiffs' alleged exposures constitute a class-wide injury. Their analyses are incompatible with tort standards, litigation-driven, and contrary to well-developed principles for evaluating causation.

1. Plaintiffs' Experts' Regulatory-Based Analysis Is Unreliable

Drs. Grandjean and Bartell purport to conduct an analysis based on a methodology that is designed for preventive regulatory risk assessments, not tort claims. Nor does Dr. Grandjean

disclose with any rigor what principles guided his selection and evaluation of the scientific literature, or whether his causal analysis adhered to any such principles. His analysis is unsound. Consequently, neither expert's opinion can lead to a determination of general causation at Plaintiffs' alleged levels of exposure. They are unreliable and should be excluded.

a. Use Of Regulatory Principles Is Incompatible With Tort Law

Dr. Grandjean states that he developed his opinions based on a "weight of the evidence" approach of the type designed for regulatory risk assessments. Dr. Bartell's risk assessment model is the product of the same approach. It is incompatible with determining tort liability.

Dr. Grandjean expressly draws parallels between his approach and those used by regulatory and advisory bodies, "such as ATSDR, EPA, NTP [U.S. National Toxicology Program], EFSA [European Food Safety Authority], and IARC," to set preventive exposure guidelines. Grandjean Vermont Rpt. at 70; *see also id.* at 4, 19, 63-64; 4/22/19 Hr'g Tr. at 31:3-32:6, 65:3-22.

> Q. And a weight-of-the-evidence approach has been used by regulatory agencies in the risk assessment process, true?
> A. True.
> Q. And you believe that the weight-of-the-evidence assessment that you performed in this litigation conforms to the approaches of the ATSDR, EPA, NTP … , EFSA, and IARC in conducting risk assessments, true?
> A. True.
> Q. And regulatory and advisory bodies such as IARC, OSHA, and EPA utilize a weight-of-the-evidence method to assess the carcinogenicity of various you substances in human beings and suggest or make prophylactic rules governing human exposure, true?
> A. True.
> Q. And regulatory and advisory bodies such as ATSDR, EPA, NTP, and EFSA utilize a weight-of-the-evidence method to assess noncarcinogenic endpoints of various substances in human beings and suggest or make prophylactic rules governing human exposure, true?
> A. True.

4/22/19 Hr'g Tr. at 65:3-22.

Yet courts have repeatedly rejected experts' causation opinions predicated on regulatory risk-assessment approaches because of their different standards and goals.

> We are also unpersuaded that the "weight of the evidence" methodology these experts use is scientifically acceptable for demonstrating a medical link between Allen's EtO exposure and brain cancer. Regulatory and advisory bodies such as IARC, OSHA and EPA utilize a "weight of the evidence" method to assess the carcinogenicity of various substances in human beings and suggest or make prophylactic rules governing human exposure. This methodology results from the preventive perspective that the agencies adopt in order to reduce public exposure to harmful substances. The agencies' threshold of proof is reasonably lower than that appropriate in tort law, which "traditionally make[s] more particularized inquiries into cause and effect" and requires a plaintiff to prove "that it is more likely than not that another individual has caused him or her harm."

Allen v. Pa. Eng'g Co., 102 F.3d 194, 198 (5th Cir. 1996) (quoting *Wright v. Willamette Indus.*, 91 F.3d 1105, 1107 (8th Cir. 1996)); *accord Sutera v. Perrier Grp. of Am. Inc.*, 986 F. Supp. 655, 664-65 (D. Mass. 1997). Federal courts have also applied this caution in other PFOA cases.

> [A] risk assessment is of limited utility in a toxic tort case, especially for the issue of causation, because of the risk assessment's distinct purpose. Risk assessments have largely been developed for regulatory purposes and thus serve a protection function in providing a level below which there is no appreciable risk to the general population.
> …
> Because a risk assessment overstates the risk to a population to achieve its protective and generalized goals, it is impossible to conclude with reasonable certainty that any one person exposed to a substance above the criterion established by the risk assessment has suffered a significantly increased risk.

Rhodes, 253 F.R.D. at 377-78; *accord Rowe*, 2008 WL 5412912, at *18-19.

Drs. Grandjean and Bartell cannot rely on regulatory risk assessment principles to reliably derive a medical causation opinion in tort. [redacted] "A government administrative agency may regulate or prohibit the use of toxic substances through rulemaking, despite a very low probability of any causal relationship. A court, in contrast, must observe the tort law requirement that a plaintiff establish a probability of more than fifty percent that the defendant's action injured him." *In re Agent Orange Prod. Liab. Litig.*, 597 F. Supp. 740, 785 (E.D.N.Y. 1984), *aff'd*, 818

F.2d 145 (2d Cir. 1987). Regulatory risk assessments "are set for purposes far different than determining the preponderance of evidence in a toxic tort case" since they "traditionally include protective factors to reasonably ensure that susceptible individuals are not put at risk." RMSE at 665-66. They are designed to be ***protective***, not ***predictive***. Dr. Grandjean concedes as much.

> Q. Given the methods, assumptions, and uncertainty factors that are used in regulatory risk assessments, the permissible exposure levels that are calculated are intended to be protective not predictive?
> A. No. They are intend to be virtually protective for the exposed population.
> …
> Q. Given the methodology, assumptions and safety factors that characterize regulatory risk assessments, the permissible exposure levels do not provide predictive information about actual clinical risks for exposures that exceed such levels, do they?
> A. No.

Grandjean Vermont Tr. at 82:9-24; *see also id.* at 71:23-72:16, 81:18-82:8. [redacted]

[redacted]

This protective perspective cannot satisfy the requirements for expert testimony in a tort suit. Whereas "[a] regulatory agency ... may choose to err on the side of caution," courts "are required by the *Daubert* trilogy to engage in objective review of evidence to determine whether it has sufficient scientific basis to be considered reliable." *Rider v. Sandoz Pharm. Corp.*, 295 F.3d 1194, 1201 (11th Cir. 2002). Thus, reliance on such approaches is not "scientifically acceptable" to demonstrate that an adverse health effect results from a chemical exposure. *Allen*, 102 F.3d at 198. Nor do the approaches used by regulatory agencies, with their "reasonably lower" "threshold of proof," track the legal burden of proof in tort. *Id.*; *see also Agent Orange*, 597 F. Supp. at 785.

Plaintiffs' experts do not appreciate these fundamental distinctions. [redacted]

[redacted]

[redacted] Nor does Dr. Grandjean stand on firmer ground. He cannot "answer" whether there is reason to err on the side of caution in a toxic tort suit where scientific reliability, rather than regulatory public health policy, is at issue. Grandjean Vermont Tr. at 72:17-22. Yet the far different assumptions that characterize the methods used by regulatory agencies, with far different goals, renders both experts' reliance on them unreliable.

b. Dr. Grandjean's Standardless Approach Is Not Reliable

Dr. Grandjean purports to perform a "weight of the evidence" analysis but offers no support for the assertion that his approach to weighing evidence is "commonly accepted" in the epidemiological community. Grandjean Vermont Rpt. at 27; 4/22/19 Hr'g Tr. at 147:25-148:6.

[redacted] As scientific investigators have observed, it is a term that has been put to different uses, each reflecting starkly different degrees—or the absence—of scientific rigor:

> (1) metaphorical, where [weight of the evidence (WOE)] refers to a collection of studies or to an unspecified methodological approach; (2) methodological, where WOE points to established interpretative methodologies (e.g., systematic narrative review, meta-analysis, causal criteria, and/or quality criteria for toxicological studies) or where WOE means that "all" rather than some subset of the evidence is examined, or rarely, where WOE points to methods using quantitative weights for evidence; and (3) theoretical, where WOE serves as a label for a conceptual framework.

Weed D., *Weight of Evidence: A Review of Concept and Methods*, Risk Analysis 25:1545-57, (2005); [redacted]

[redacted]

"Weight of the evidence" is not a mantra that lawyers or experts can chant in order to disguise that what the experts offer is, in reality, nothing "more than subjective belief or unsupported speculation," *Daubert*, 509 U.S. at 590, which they interpret at will. Federal courts, including those in the First Circuit, do not allow experts to use "weight of the evidence" as carte-blanche to bypass *Daubert*'s requirements. Every expert opinion, even those based on "weight of the evidence," must be evaluated "on the particular facts of the case" to guarantee that it "rests on a scientifically sound and methodologically reliable foundation, as is required by *Daubert*." *Milward v. Acuity Specialty Prods. Grp., Inc.*, 639 F.3d 11, 20 (1st Cir. 2011) (*Milward I*). And even when based on a recognized methodology, the expert "still must show that the steps taken as part of that analysis … were accomplished utilizing scientifically valid methods." *Milward v. Rust-Oleum Corp.*, 820 F.3d 469, 476 (1st Cir. 2016) (*Milward II*). Since "[f]lexible methodologies, such as 'weight of the evidence,' can be implemented in multiple ways, … [t]he ***specific way*** an expert conducts such an analysis must be reliable." *In re Zoloft (Sertraline Hydrochloride) Prod. Liab. Litig.*, 858 F.3d 787, 796 (3d Cir. 2017) (emphasis added). An expert must set out "the specific techniques" by which he conducted his analysis to distinguish it from "a mere conclusion-oriented selection process." *Id.* (citation and quotation marks omitted). That is so, because "a subjective analysis without any methodological constraints does not satisfy the requirements of *Daubert*." *Bricklayers and Towel Trades Intern. Pension Fund v. Credit Suisse Sec. (USA) LLC*, 752 F.3d 82, 95 (1st Cir. 2014).

"'Judgment' does not substitute for scientific method; without a reliable method, result-oriented 'judgment' cannot be distinguished from scientifically or methodologically-based

judgment." *Magistrini v. One Hour Martinizing Dry Cleaning*, 180 F. Supp. 2d 584, 608 (D.N.J. 2002), *aff'd*, 68 F. App'x 356 (3d Cir. 2003). Nor is it a cloak to camouflage an expert's approach that lacks the rigor that would be expected in his field of practice. *Milward I*, 639 F.3d at 18-19. "[R]eliability within the meaning of Rule 702 requires a sufficiently rigorous analytical connection between that methodology and the expert's conclusions." *Nimely*, 414 F.3d at 396. "[M]ere reference" to a reliable method "cannot change the sow's ear of rank speculation into a silk purse of reliable expert opinion. Rather, expert opinion testimony must be shown to be based on more than the subjective belief or unsupported speculation of the expert." *Bowling v. Hasbro, Inc.*, 2008 WL 717741, at *7 (D.R.I. 2008) (citation and quotation marks omitted). Dr. Grandjean's failure to show that his "weighing and discounting" was "methodological [and] systematic" should be "the heart of this Court's inquiry," *Magistrini*, 180 F. Supp. 2d at 607, and warrants exclusion.

Dr. Grandjean's methodology is inscrutable. "To ensure that the ... weight of the evidence criteria is truly a methodology, rather than a mere conclusion-oriented selection process ... there must be a scientific method of weighting that is used and explained." *Zoloft*, 858 F.3d at 796 (citation omitted). "[A]n expert must explain 1) how conclusions are drawn for each ... criterion and 2) how the criteria are weighed relative to one another." *Id.* He says that his approach involves evaluating each piece of evidence to determine the weight to assign it, Grandjean Vermont Tr. at 90:4-6, [redacted]

[redacted]

Thus, "the single most serious flaw" in Dr. Grandjean's approach "is the most basic: he simply has not set forth the methodology he used to weigh the evidence." *Magistrini*, 180 F. Supp. 2d at 606. Instead, he broadly claims to have used a "weight-of-the-evidence approach," Grandjean Rpt. at 12, in which he "evaluat[ed] the weight of different types of evidence," according to his unfettered "judgment." Grandjean Vermont Rpt. at 11; Grandjean Vermont Tr. at 88:5-11; [redacted]

"[I]t is imperative that experts who apply multi-criteria methodologies such as ... the 'weight of the evidence' rigorously explain how they have weighted the criteria." *In re Mirena IUS Levonorgestrel-Related Prod. Liab. Litig. (No. II)*, 341 F. Supp. 3d 213, 247 (S.D.N.Y. 2018). In these circumstances, "courts have insisted on a clear explication of the weighting assigned to the different criteria [and] demanded that the expert's application of the individual criteria be performed with proper rigor." *Id.* at 248. Yet Dr. Grandjean is silent as to the details of his weighting process or how much weight any one piece of evidence had in his analysis.

> Q. What was your method for weighing studies according to the statistical method that they used?
> A. I don't understand the question.
> Q. If you applied different weights to each study, according to the statistical methods, how did you determine what weight to apply?
> A. It was not the only aspect. Clearly, if a faulty statistical method was used for the case, I would take that into consideration; but your question is so general it is hard to answer it.

Grandjean Vermont Tr. at 90:14-91:14.

Thus, while Dr. Grandjean refers generally to certain characteristics of studies and their findings, he does not attempt to integrate and weigh those characteristics in a systematic manner.

Id. at 87:17-23. His approach applies a qualitative "relative weight" to the evidence he considered in place of a quantitative approach of "assigning a number to it." *Id.* at 89:8-13. That subjective approach is a poor fit where many attributes of the studies he cited—including statistical significance, power, and relative risk—are disposed to quantitative weighting. "By leaving obscure the weight that he attaches to each of the[se criteria]," his "unscientific 'black box' approach ... entirely prevents the finder of fact, or other experts seeking to validate or check his work, from conducting a meaningful and informed review." *Mirena*, 341 F. Supp. 3d at 249.

The apparent absence of such predetermined criteria to reliably guide his analysis illustrates why approaches such as Dr. Grandjean's "are virtually standardless and their applications to a particular problem can prove unacceptably manipulable." *Id*. at 247. For example, Dr. Grandjean's testimony leaves unanswered what ad hoc adjustments he made to his analyses, such as his inconsistent treatment of findings from small studies in a consistent manner. In some instances, he points to studies' small numbers to rationalize findings that appear to undermine his opinions, whereas otherwise he completely declined to "consider[]" some studies due to their "small numbers" or "other weaknesses." Grandjean Rpt. at 28, 35, 48, 49, 52. In other instances, he extols the findings of small studies where they corroborate his opinion. Grandjean Rpt. at 21, 23. Likewise, he does not explain how his suspicions regarding "industry-affiliated" or "industry-supported" research affected his opinion. *Id.* at 32; Grandjean Vermont Rpt. at 23, 39, 70. With such gaps in his explanations, the Court cannot be assured that his opinions are "based on methods of science" and "reliable according to the principles articulated in *Daubert*," rather than "a mere conclusion-oriented selection process." *Zoloft*, 858 F.3d at 796 (citation and quotation marks omitted); *see also Magistrini*, 180 F. Supp. 2d at 603.

Because he fails to set out the specific method for weighting, weighing, and integrating evidence, this Court, like the Third Circuit in *Zoloft*, cannot determine whether "[t]he particular combination of evidence considered and weighed here has [] been subjected to peer review." 858 F.3d at 796 (quoting *Magistrini*, 180 F. Supp. 2d at 602). "[A] subjective analysis without any methodological constraints does not satisfy the requirements of *Daubert*." *Bricklayers*, 752 F.3d at 95. Where an expert has "tools at his disposal … to guide his analysis," he should use them. *Id.* His application of the weight-of-the-evidence lack any indicia that methodological constraints guided his analysis. [redacted] For such a subjective approach, "there are no 'standards controlling the technique's operation.'" *Mirena*, 341 F. Supp. 3d at 247 (quoting *Daubert* 509 U.S. at 594).

The "malleable and vague approach" Dr. Grandjean used to develop his causation opinion "is in tension with first principles under *Daubert*." *Id.* at 268. His analysis "makes it all too easy ... to manipulate the [various methodological] factors to support a desired conclusion of causation, and far too hard for an ensuing expert to replicate and rigorously test the expert's analytic approach." *Id.* Impossible to validate, his opinion is unreliable.

c. Dr. Grandjean's Reasoning Is Unsound

Dr. Grandjean's opinions do not even reflect "the same level of intellectual rigor" that one would expect him to employ in his field. *Kumho Tire*, 526 U.S. at 152.

> Q. … [I]s the weight-of-the-evidence a generally accepted method or technique for conducting systematic reviews of causal evidence associated with exposures to environmental chemicals?
> A. Right. I mean, as a journal editor, we call it systematic reviews, and, I mean, if … you write for my journal, if you write for any major journal and you claim to review, let's say, the toxicity of PFOA, ***you have to state how did you round up all the literature? How did you assess it? How did you reach your***

> ***conclusions?*** And this, I mean, … as an editor, I review systematic reviews regularly, and some of them we publish, and some of them we don't, but ***there are strict criteria for what we consider appropriate and systematic***, because it has to be systematic.

4/22/19 Hr'g Tr. at 35:4-17. Dr. Grandjean understands "the strict criteria" that should have guided his analysis. *Id.* He just declined to apply them when it came to his opinion here.

Nor is the court's decision concerning Dr. Grandjean's opinion in *Sullivan v. Saint-Gobain Performance Plastics Corp.*, No. 5:16-cv-125 (D. Vt. 2019) (Dkt. 300), persuasive here. First, "the question of admissibility 'must be tied to the facts of a particular case.'" *Beaudette v. Louisville Ladder, Inc.* 462 F.3d 22, 25-26 (1st Cir. 2006) (quoting *Kumho Tire*, 526 U.S. at 150); *see also Milward I*, 639 F.3d at 14-15, 19. "Both *Daubert* and *Kumho* stand for the proposition that an expert opinion rendered in a particular case must be independently analyzed." *Iwanaga v. Daihatsu Am., Inc.*, 2001 WL 1910564, at *9 (W.D. Tex. 2001); *cf. City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036, 1045 n.3 (9th Cir. 2014); *Payne v. Novartis Pharm. Corp.*, 2013 WL 12155123, at *2 (E.D. Tenn. 2013); *Brown v. Novartis Pharm. Corp.*, 2012 WL 9082913, at *3 (E.D.N.C. 2012); *Abernathy v. Union Pac. R. Co.*, 2011 WL 1397439, at *4 (E.D. Ark. 2011); *Soufflas v. Zimmer, Inc.*, 474 F. Supp. 2d 737, 743 n.3 (E.D. Pa. 2007).

This case is different from the *Sullivan* decision in Vermont, where Dr. Grandjean was not offered to opine as to "the terms and duration of a medical monitoring program." *Sullivan* (Dkt. 300 at 35-36).

[redacted]

Second, the *Sullivan* decision approaches Dr. Grandjean's methodology in a formulaic manner, which does not fully appreciate the gravity of the methodological flaws in Dr. Grandjean's analysis. The *Sullivan* court's decision misses the significance of Dr. Grandjean's failure to describe his inclusion and exclusion criteria for what literature he cited and the potential role of implicit bias in the studies he considered to be relevant. *Sullivan* (Dkt. 300) at 37. While it refers to the 277 citations in his report, *id.* at 39, it does not consider Dr. Grandjean's acknowledgement that "the annual number of publications on the PFASs is said to exceed 400", Grandjean Rpt. at 17—[redacted]

Likewise, the *Sullivan* court's statements concerning "weight of the evidence" do not discuss the multiple meanings of that term, including the range of scientific rigor that the term may imply. *Sullivan* (Dkt. 300) at 38-40. Nor does it closely examine Dr. Grandjean's abstract descriptions of how he purportedly applied the approach. As these examples illustrate, the *Sullivan* decision lacks a full appreciation of how Dr. Grandjean's approach is indistinguishable from subjective, outcome-driven methods that *Daubert* was intended to prevent.

For these reasons, Plaintiffs' experts' opinions are unreliable and should be excluded.

2. Plaintiffs' Experts Cherry-Pick From the Scientific Literature

The opinions of Drs. Grandjean and Bartell are also unreliable because they cherry-picked the literature. "When experts rely on epidemiological evidence to support causation, they must provide the jury with a full picture of the state of the field." *K.E. v. GlaxoSmithKline, LLC*, 2017 WL 440242, at *10 (D. Conn. 2017) (citing *Guardians*, 633 F.2d at 240). Where "an expert's medical opinion is grounded exclusively on scientific literature, a district court acts within its discretion to require the expert to explain why she relied on the studies that she did and, similarly,

why she disregarded other, incompatible research." *Milward II*, 820 F.3d at 474. Thus, when an expert "cherry-pick[s] the facts he considered to render an expert opinion ... such a selective use of facts fails to satisfy the scientific method and *Daubert*." *Barber*, 17 F. App'x at 437.

Dr. Grandjean agrees that selective "picking the evidence in accordance with the conclusions [one] apparently want[s]" is inconsistent with a valid and reliable methodology. Grandjean Vermont Tr. at 25:6-20. Yet within the body of PFAS literature he evaluated, Dr. Grandjean does not provide a fair or complete picture of the scientific literature on PFOA. He cannot tie the representation that he "cited the most relevant studies" to any valid criterion for evaluating causation. Grandjean Rpt. at 20. Instead, he offers only circular justifications that are inconsistent with reliable science: the selection criteria were "a matter of the weight of the study," that is, "whether it contributed [] weighty evidence." Grandjean Vermont Tr. at 89:1-7. [redacted]

Nor does Dr. Grandjean's report provide any basis to infer that he systematically evaluated even the studies he did cite. In *Mirena*, the court criticized the expert for her limited engagement with the scientific literature: "Beyond citing these studies, [plaintiffs' expert] does not discuss any of them in more than a sentence." 341 F. Supp. 3d at 255. As in *Mirena*, Dr. Grandjean's discussion of the studies he cites is limited to a one- or two-sentence, high-level summary. Most of these short summaries do not describe important statistical details from the studies (such as the

p-value or relative risk), assess study-specific issues of confounding or bias, or attempt to identify and reconcile contradictory findings. And where he cites studies that are not fully consistent with his thesis, he often dismisses their validity or relevance in a cursory manner, *see, e.g.*, Grandjean Rpt. at 23, 37, or by questioning the authors' motives, *see, e.g.*, *id.* at 41.

a. Dr. Grandjean Engages In Results-Driven Reinterpretations

Dr. Grandjean also selectively interprets study findings in ways that are contradictory to the authors' stated conclusions. For example, the New Hampshire Department of Health and Human Services ("NH DHHS") looked at the number of cancer diagnoses in the Merrimack area for a ten-year period and compared them to the statewide number of diagnoses. Grandjean Tr. Ex. 15 at 5. NH DHHS concluded that there was no significant difference in the number of Merrimack diagnoses and those statewide, for any of the two dozen types of cancer it included in its review. *Id.* at 6 tbl.2. Among the findings, the state agency stated that prostate and bladder cancers were not being diagnosed at significantly higher rates in Merrimack than the rest of the state. *Id.* [redacted] An "expert is a conduit of facts," not "a subjective speculator relying on stature alone." *Grimes*, 907 F. Supp. at 35 (citation and quotation marks omitted). [redacted] and his "speculative or conjectural assumptions" about it cannot form the basis for

an expert opinion. *Major League Baseball Prop., Inc. v. Salvino, Inc.*, 542 F.3d 290, 311 (2d Cir. 2008); *see also Quinones-Pacheco v. Am. Airlines, Inc.*, 979 F.2d 1, 6 (1st Cir. 1992). These examples illustrate Dr. Grandjean's results-driven approach to scientific literature: it either supports his preconceived opinion or it is flawed in some manner.

b. Plaintiffs' Experts Over-Rely On Favorable Studies

Plaintiffs' experts' results-driven approach to the scientific evidence extends to over-reliance on certain studies. For example, Dr. Grandjean relies heavily on studies he conducted in the Faroe Islands for his opinion regarding immunotoxicity. *See* Grandjean Rpt. at 21-22, 24, 31, 35, 44. [redacted] Likewise, he fails to address whether his Faroe-based findings apply to the New Hampshire population. For example, the inhabitants of the Faroe Islands are exposed to a variety of chemicals through a diet that is traditionally heavy in marine foods, including whale meat and blubber, seabirds and eggs, fatty fish, and puffin. Grandjean Vermont Tr. Ex. 7 at 177-79. He admits that whale meat and blubber, seabirds and eggs, and puffin are not typical components of the average diet in New Hampshire. Grandjean Vermont Tr. at 117:20-118:6. In addition, the Faroese are a genetically homogenous population that are susceptible to high rates of certain heritable disorders. *Id.* at 130:6-13. [redacted] Nor does he indicate whether he discounted the "weight" these studies carried in his analysis.

[redacted]

[redacted]For example, he cites five studies concerning PFOA exposure and risk of kidney and testicular cancers, Bartell Rpt. at 9-10, [redacted]

An expert who offers an opinion "without confronting scientific literature that refutes this notion, casts doubt upon the reliability of her opinions." *In re Mirena IUD Prod. Liab. Litig.*, 169 F. Supp. 3d 396, 449 (S.D.N.Y. 2016) (citing *In re Rezulin Prod. Liab. Litig.*, 369 F. Supp. 2d 398, 425 (S.D.N.Y. 2005)). "[J]ust as omitting data might distort the result by overlooking unfavorable data, cherry-picking data produces a misleadingly favorable result by looking only to 'good' outcomes." *E.E.O.C. v. Freeman*, 778 F.3d 463, 469-70 (4th Cir. 2015); *accord Bricklayers*, 752 F.3d at 92; *Barber*, 17 F. App'x at 437. Such selective citation "undermines principles of the scientific method and is a quintessential example of applying methodologies (valid or otherwise) in an unreliable fashion." *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prod. Liab. Litig. (No. II) MDL 2502*, 892 F.3d 624, 634 (4th Cir. 2018). It shows the expert has not exhibited "the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho*, 526 U.S. at 152.

c. Dr. Grandjean Conflates PFOA Exposure With Other PFASs

In addition, Dr. Grandjean cherry picks evidence by conflating results for PFOA and other PFASs. Though his bottom-line opinion (and Plaintiffs' claims) are limited to PFOA and PFOS exposure, his endpoint-by-endpoint, summary assessments are framed in terms of PFAS exposure. Grandjean Rpt. at 20, 25, 27, 28, 30, 32, 40, 43, 47. In many instances, his discussion described findings only for PFAS exposures other than PFOA and PFOS or referred generically to PFAS without identifying whether PFOA was measured. *See, e.g.*, *id.* at 22, 28. [redacted]

[redacted]

Dr. Grandjean concedes, as he must, that the biological response to two chemical substances in the same chemical class may be different. Grandjean Vermont Tr. at 100:2-5. Some of the studies he cites report inconsistent outcomes for PFOA and PFOS. Grandjean Rpt. at 35. But he does not explain whether he treated or weighed study findings involving PFOA and PFOS differently than those involving other PFASs. *See* Grandjean Vermont Tr. at 101:4-9. Nor does he explain whether he evaluated the respective findings concerning PFOA and PFOS separately before forming his opinions—or whether he simply conflated the findings for both chemicals. Courts "regularly exclude expert opinions built on analogies to different chemical compounds than the one at issue," *Mirena*, 341 F. Supp. 3d at 288, since "[e]ven minor deviations in molecular structure can radically change a particular substance's properties and propensities." *Id.* (quoting *Glastetter v. Novartis Pharm. Corp.*, 252 F.3d 986, 990 (8th Cir. 2001)). In the absence of "good grounds for treating these [various] chemicals similarly" or a "weighting adjustment for them," *Magistrini*, 180 F. Supp. 2d at 604, an expert's use of evidence for a chemical substance other than the one at issue renders his opinion unreliable.

3. Plaintiffs' Experts Lack A Reliable Approach To Infer Causation

The opinions of Drs. Grandjean and Bartell are inadmissible for the additional reason that they provide no objective framework for inferring causation from the evidence they cite.

[redacted]

[redacted] Dr. Grandjean also purports to follow epidemiological principles. Grandjean Vermont Tr. at 89:14-19, 142:1-5. The field of epidemiology is subject to several well-developed

standards for evaluating whether there exists a causal relationship between an exposure and a disease, two of the most important of which Plaintiffs' experts fail to address.

First, the expert must evaluate the totality of the relevant data to determine whether they report an association between exposure and disease. RMSE at 604-05; *K.E.*, 2017 WL 440242, at *10-11. And the expert should consider whether an association is true or false—that is, whether it may be explained by chance, bias, or confounding. RMSE at 572-74; *Zoloft*, 858 F.3d at 793.

Second, only after a true association has been identified, the expert should apply the "Bradford Hill criteria" to determine whether the association is causal. *Lipitor*, 892 F.3d at 642; *Dunn v. Sandoz Pharm. Corp.*, 275 F. Supp. 2d 672, 678 (M.D.N.C. 2003). "Those factors include temporal relationship, strength of the association, dose-response relationship, replication of the findings, biological plausibility, consideration of alternative explanations, cessation of exposure, specificity of the association, and consistency with other knowledge." *Lipitor*, 892 F.3d at 638 (citing RMSE at 599–600).

Dr. Bartell makes no effort to demonstrate that he has satisfied these steps. Instead, he sidesteps that process and merely assumes causation in order to perform his "risk calculations." This intellectual leap is not permitted under *Daubert*, under which the court should rigorously examine "the facts on which the expert relies, the method by which the expert draws an opinion from those facts, and how the expert applies the facts and methods to the case at hand." *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002). His opinion cannot survive such a review.

A simple internet search reveals that Dr. Bartell's general causation opinion, here, concerning PFOA is contradicted by opinions he offers outside of this litigation. As a member of the Michigan PFAS Science Advisory Panel, Dr. Bartell opined that "causality between a PFAS

chemical and a specific health outcome in humans has not been established in the current scientific literature." Mich. PFAS Rpt. at 10. Under *Daubert*, a court should "make certain that an expert … employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire*, 526 U.S. at 152. Since "a scientist's normal workplace is the lab or the field, not the courtroom or the lawyer's office," the 180-degree reversal of Dr. Bartell's opinion casts a harsh light on whether his "proposed expert testimony amounts to good science." *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995).

[redacted] While he acknowledges the utility of the Bradford Hill factors, his report contains only scattered references to ***some*** of them, such as plausibility, dose, and consistency. Likewise, his report's cursory treatment of the scientific literature largely places on the reader the onus of identifying limitations or cautions concerning the underlying findings, which precludes inferring anything about the strength of purported associations from the text of his report. He does not attempt to integrate the factors or discuss how they apply to his analysis.

Dr. Grandjean's opinion fails to apply the correct standard or a reliable method for inferring causation. He erroneously conflates ***association*** with ***causation***. Specifically, while referring to "***potential*** hazard[s]" of PFASs, he states only that "PFOA shows convincing ***associations*** with the[] outcomes" that he identifies. Grandjean Rpt. at 5 (emphasis added). In the related Vermont litigation, he similarly characterized his inquiry as whether "it is more likely than not that PFOA is ***associated*** with the particular outcomes." Grandjean Vermont Tr. at 101:18-102:11 (emphasis added). These statements reflect a fundamental error in his analysis. A statistical association "is not equivalent to causation" and it does not "necessarily imply a causal effect." RMSE at 552 &

n.7; *accord Lipitor*, 892 F.3d at 647; *Glastetter*, 252 F.3d at 990; *Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1315 n.16 (11th Cir. 1999). Though he admits that "association" is not a substitute for "causation" and that distinguishing between the two concepts is important, Grandjean Vermont Tr. at 57:10-18, he fails to uphold that principle. This flaw also renders his opinions unreliable.

4. Dr. Grandjean's Exposure Thresholds Are Arbitrary

Dr. Grandjean's opinions should also be excluded because they use arbitrary exposure thresholds. "Scientific knowledge of the harmful level of exposure to a chemical plus knowledge that plaintiff was exposed to such quantities are minimal facts necessary to sustain the plaintiff's burden." *McClain v. Metabolife Intern., Inc.*, 401 F.3d 1233, 1241 (11th Cir. 2005) (quoting *Allen*, 102 F.3d at 199) (emphasis added); *Mitchell v. Gencorp Inc.*, 165 F.3d 778, 781 (10th Cir. 1999).

[redacted] Given the absence of criteria for quantity or frequency of consumption, this admitted "key parameter" is missing from his analysis and the inclusion terms are insufficient to determine any individual's dose of PFOA. Thus, his threshold cannot meaningfully distinguish putative class members from any individual in the United States. Such an arbitrary dividing line "'reveals a methodological flaw that cannot be overlooked by the court.'" *Adams v. Cooper Indus., Inc.*, 2007 WL 1805586, at *4 (E.D. Ky. 2007) (quoting *Allgood v. Gen Motors Corp.*, 2006 WL 2669337, at *28-29 (S.D. Ind. 2006)); *see also McClain*, 401 F.3d at 1241.

[redacted] There is considerable variability in water consumption. [redacted]

[redacted]

Many of the putative class members will likely have similar PFOA exposure to individuals across the nation who have never consumed water in Merrimack. Since 1999, the average blood serum concentration of PFOA in the U.S. population has ranged between 5.21 µg/L and 1.56 µg/L. Grandjean Tr. Ex. 8 at 2, 4. [redacted]

[redacted]The court in *Rowe* rejected a similar approach that sought to demonstrate common exposure using uniform assumptions about putative class members "based on the reported averages of the[] characteristics within the general population." 2008 WL 5412912, at *13, 19. The same result is warranted here.

II. PLAINTIFFS' FATE AND TRANSPORT EXPERTS' OPINIONS ARE INADMISSIBLE

A. Mr. Sullivan Proffers No Method To Prove Injury for All Class Members

[redacted]

[redacted] To reach that opinion, he relies heavily on Barr Engineering's June 2017 report entitled "Preliminary Air, Soil, and Water Modeling Technical Memorandum: Merrimack, New Hampshire" (the "Barr Report"), in conjunction with his own "qualitative" assessment—a visual comparison—of certain outputs of the Barr Report, measured groundwater concentrations near

Saint-Gobain, and the applicable wind rose. Sullivan Rpt. Ex. 6; [redacted] His approach is unscientific *ipse dixit*, and his opinions should be excluded.

Mr. Sullivan must be able to offer an opinion "admissible and sufficient to ***prove injury in any individual class member's individual trial***." *Asacol*, 907 F.3d at 54 (emphasis added) (quoting *Tyson Foods*, 136 S. Ct. at 1047). Plaintiffs proffer his opinions to support their claim that each member of the putative classes suffered injury in the form of PFOA at his or her property and/or PFOA in his or her water above certain identified levels. *See, e.g.*, Pls.' Mot. for Class Cert. at 2, 25; Sullivan Rpt. at 11. But Mr. Sullivan's methodology cannot reliably establish either form of injury through class-wide proof. *See Asacol*, 907 F.3d at 54.

1. No Method To Show Presence Or Levels Of PFOA At Each Property

[redacted]

[1] Within the last ten days Mr. Sullivan disclosed new air modeling he conducted since his deposition. To the extent it is not stricken, Defendants reserve the right to separately challenge Mr. Sullivan's new modeling and any opinions related thereto.

[redacted]

As the New Hampshire DES explained, "the many generalizations and simplifications inherent in [Barr's application of AERMOD] make it an ***inappropriate tool for understanding localized conditions and predicting concentrations in various media in the [vicinity of Saint-Gobain] at a property or neighborhood scale***." NHDES, Oct. 30, 2017 Meeting. [redacted]

[redacted]

Mr. Sullivan cannot, based on the Barr Report, say with any reasonable degree of scientific certainty that PFOA from Saint-Gobain actually reached every putative class member's residence—or, if it did, when, how frequently, or how much PFOA was deposited there.

Further, to the extent Mr. Sullivan's opinions extend to PFAS other than PFOA, they should be excluded. [redacted] He has not presented a reliable methodology to support an opinion that PFOS and PFOA would behave similarly in the circumstances presented here.

Finally, to the extent Mr. Sullivan intends to opine about the alleged "health effects" of PFOA, his testimony should be excluded. [redacted]

[redacted] His sole basis for saying it is appropriate is a 2005 document reflecting dispersion modeling conducted by Barr for Saint-Gobain. Sullivan Rpt. at 9 (citing Ref. 27:17); [redacted] But in that document, Barr compared airborne concentrations for ***APFO*** to the AAL for *APFO*. *See* Sullivan Rpt. Ref. 27 at 17. [redacted] he cannot reliably hypothesize about alleged health effects that could occur if PFOA concentrations exceed the AAL for APFO.

2. No Method To Show Presence Or Levels Of PFOA In Drinking Water

[redacted]

[redacted] But Mr. Sullivan "cannot simply repeat [Barr's] conclusion … unless he has the expertise to independently reach that conclusion." *United States v. Zolot*, 968 F. Supp. 2d 411, 427 (D. Mass. 2013); *see also Thorndike v. DaimlerChrysler Corp.*, 266 F. Supp. 2d 172, 185 (D. Me. 2003). With no experience using or interpreting the subsurface models that Barr relied on, Mr. Sullivan cannot parrot Barr's conclusions and call them his own.

[redacted] it does not follow that PFOA was present in each putative class member's drinking water—let alone, how much or at what time. Neither Barr nor Mr. Sullivan

even attempted to model the presence or amount PFOA in air, soil, or water at particular putative class member's location. Mr. Sullivan cannot assume that PFOA would have reached them.

At best, Mr. Sullivan can opine about air deposition, with the limitations set out in this Motion. But he is not qualified and has no reliable method to explain the rest of the fate and transport "pathway" that he claims exists and Plaintiffs must establish, and Plaintiffs have proffered no other expert to fill that role.

B. Mr. Sullivan Proffers No Class-Wide Method to Prove the Source of PFAS

To the extent PFOA was present on a putative class member's property and/or in a putative class member's drinking water above certain identified levels, Mr. Sullivan's method does not reliably establish that Saint-Gobain was the source. Without offering a "suitable methodology for establishing the critical element[s] of causation … on a class-wide basis," his testimony does not fit class certification and should be excluded. *Weiner*, 2010 WL 3119452, at *6.

In his report, Mr. Sullivan opines that Saint-Gobain is "***the source*** of the high levels of PFAS contamination measured throughout the [proposed class area]." Sullivan Rpt. at 11 (emphasis added). [redacted] that is, "higher PFOA groundwater concentrations with closer proximity to [Saint-Gobain], and lower concentrations as distance from the facility increases," Sullivan Rpt. at 7.

In addition to the Barr Report, Mr. Sullivan relies on his own "qualitative" assessment in support of his causation opinion. He evaluated (1) simulated PFOA deposition data (from the Barr

Report, *see id.* Ex. 5); (2) measured concentrations of PFOA *and* PFOS, combined, in the vicinity of Saint-Gobain, as measured by NHDES (the "2018 NHDES data," *see id.* Exs. 3A, 3B); and (3) the applicable wind rose. *Id.* Ex. 4. He looked at those data sets side by side, as depicted in Exhibit 6 to his report, and visually compared them. *Id.* Ex. 6; [redacted] As discussed below, Mr. Sullivan's method is unreliable and inadmissible.

First, as noted above, [redacted]

Second, the Barr Report actually rebuts Mr. Sullivan's interpretation of the Barr Report. [redacted]

[redacted]

[redacted] Because Mr. Sullivan's opinion based on the Barr Report is not supported by, and contradicts, Barr's observations, it is inadmissible. "[C]ausation testimony is inadmissible if an expert relies upon studies or publications, the authors of which were themselves unwilling to conclude that causation had been proven." *Huss v. Gayden*, 571 F.3d 442, 459 (5th Cir. 2009); *accord Happel v. Wal-Mart Stores, Inc.*, 602 F.3d 820, 826 (7th Cir. 2010); *McClain*, 401 F.3d at 1247.

Third, Mr. Sullivan's "subsurface" causation opinions are purely speculative. [redacted]

[redacted]

Fourth, Mr. Sullivan's "qualitative" assessment "suffers from the impermissible 'black box' syndrome, where data is fed at one end and … an answer emerges at the other, and the [court] cannot see how the pieces fit together or how the data drives that conclusion." *Lee-Bolton v. Koppers Inc.*, 319 F.R.D. 346, 377 (N.D. Fla. 2017) (citation omitted). When, as here, the "proffered expert offers nothing more than a 'bottom line' conclusion" that is connected to facts or data "only by the *ipse dixit*, or bare assertion, of the expert," his opinion must be excluded. *Clark*, 192 F.3d at 759 (citing *Joiner*, 522 U.S. at 146).

Fifth, in "visually comparing" the Barr Report with the 2018 NHDES data, he repeatedly compares "apples to oranges":

- PFOA data (Barr) to combined PFOA + PFOS data (NHDES);
- Modeled data (Barr) to measured data (NHDES);

- Deposition rates (Barr) to concentrations (NHDES);
- Annual averages (Barr) to measurements taken at particular points in time (NHDES);
- PFAS data for 1986 through 2006 (Barr) to PFAS data from 2016 to 2018 (NHDES);
- Wind rose data for 2012 through 2016 (Barr) to wind rose data for 2013 through 2017 (Manchester-Boston wind rose data); and
- Well water and groundwater concentration measurements from a variety of sources including NHDES (Barr, see D8) to groundwater concentration measurements from NHDES only (NHDES).

He does so without acknowledging the differences, applying a generally accepted approach to resolve them, or explaining whether they matter to his opinions.

[redacted] Therefore, at best, Mr. Sullivan's "qualitative" assessment has identified a "pattern," "general trend," or "correlation" involving sites not at issue in this case.

[redacted] For example, the 2018 NHDES data include some low concentrations near Saint-Gobain and some high concentrations far from Saint-Gobain. [redacted]

[redacted]

[redacted] His report does not mention it for soil or water. [redacted]

Tenth, he fails to account for the fact that there is not necessarily a 1:1 ratio between PFOA deposited within an area and PFOA detected in groundwater in the same area. [redacted]

[redacted]

Finally, he relies on "modeling and assumptions that do not reflect the individual characteristics of class members [and must be] met with skepticism." *Gates*, 655 F.3d at 266. The Barr Report involves "many generalizations and simplifications … [that] make it an inappropriate tool for understanding localized conditions and predicting concentrations in various media in the [vicinity of Saint-Gobain] at a property or neighborhood scale." NHDES, Oct. 30, 2017 Meeting.

[redacted] But he failed to properly consider various individual factors they may impact different class members differently, such as the distance between the alternative sources and each class member's property. Without methodically accounting for this variability, his approach is merely a "community-wide estimation[]" that "would not be probative of any individual's claim," *Gates*, 655 F.3d at 266, as it masks the reality that "there are myriad explanations unrelated to [the defendant] for why [a substance] might be found at a given location." *Fisher v. Ciba Specialty Chemicals Corp.*, 238 F.R.D. 273, 307 (S.D. Ala. 2006).

C. Mr. Sullivan Fails To Reliably Rule Out Alternative Sources of PFOA

Mr. Sullivan's method also fails to rule out sources other than Saint-Gobain that may have contributed to PFOA detected in groundwater. An expert must show that "the 'ruling out' and 'ruling in' of causes … were accomplished utilizing scientifically valid methods." *Milward II*, 820 F.3d at 476. A causation opinion that fails to adequately account for obvious "alternative explanations renders [an expert's] analysis essentially worthless." *Cooper v. Meritor, Inc.*, 2019

WL 545187, at *19 (N.D. Miss. 2019) (citation omitted); *accord Michaels v. Avitech, Inc.*, 202 F.3d 746, 753 (5th Cir. 2000); *Claar v. Burlington N. R.R. Co.*, 29 F.3d 499, 504 (9th Cir. 1994); *see also* Fed. R. Evid. 702, Advisory Committee Notes to 2000 Amendments. Where, as here, the chemical at issue is a "ubiquitous" substance present in many consumer and industrial items and there are "numerous potentially contributing sources," it is "important to identify and eliminate the other potential sources in order to pinpoint [its] source." *Lee-Bolton*, 319 F.R.D. at 373.

Barr deliberately designed its modeling with *only* Saint-Gobain as the possible source of PFOA emissions in the study area. [redacted] He "assume[d] as truth the very issue that [he] needs to prove." *Clark*, 192 F.3d at 757. But there are multiple potential alternative sources in southern New Hampshire other than Saint-Gobain, including numerous sources identified by NHDES such as a former Harcros Chemicals site located five miles south of Saint-Gobain's facility. Sullivan Rpt. Ref. 30; [redacted].[2] [redacted]

[redacted]

[2] *See also* New Hampshire Public Radio, "State Will Require More PFAS Testing at Merrimack's Watson Park, a Former Industrial Site (July 5, 2018), *available at* https://bit.ly/2lzMgk2. [redacted]

[redacted] Indeed, he did not model whether any source other than Saint-Gobain could explain the PFAS detected in groundwater within the proposed class area. His failure to consider and methodically rule out potential alternative sources of PFAS, renders unreliable his opinion that Saint-Gobain is the source.

D. Dr. Vernon's Disclosed Opinions Are Inadmissible

Dr. Vernon's opinions should be excluded because they lack both reliability and fit. In determining Plaintiffs' motion for class certification, this Court must consider, *inter alia*, whether individual issues regarding putative class members' alleged exposure to PFAS preclude Plaintiffs from satisfying Rule 23's commonality, predominance, manageability, and superiority requirements. *See, e.g.*, *Asacol*, 907 F.3d at 51-54, 58; *see also* Dkt. 187 at 22-23, 36-38. Dr. Vernon's opinions do not even address—let alone satisfy—these criteria. Rather than accounting for individual exposure issues, Dr. Vernon's methodology ignores them in favor of hypothesized system-wide average exposures. [redacted] and is a "demonstrably wrong" method for determining class members' claims. *Asacol*, 907 F.3d at 54. As the Third Circuit explained, "Plaintiffs cannot substitute evidence of exposure of actual class members with evidence of hypothetical, composite persons in order to gain class certification." *Gates*, 655 F.3d at 266. If an expert "cannot demonstrate [the alleged] impact for individual class members," it is an "insurmountable *Daubert* fit problem." *In re Pharmacy Benefit Managers Antitrust Litig*., 2017 WL 275398, at *20. In short, Dr. Vernon's methodology cannot reliably answer the pertinent questions regarding

individual exposures, whereas the answers Dr. Vernon purports to provide—system-wide averages—do not fit the applicable criteria.

Dr. Vernon opines that, "[b]ased on available data, it will be possible to determine ***average*** concentrations of PFAS on a ***system-wide*** basis during certain selected time periods, such as a given week, month, or year." Vernon Rpt. at 4 (emphasis added). [redacted] However, Dr. Vernon admits that this methodology "***only yields a system-wide average***, not a predicted concentration at any particular location." Vernon Rpt. at 4 (emphasis added)[redacted]

The design and layout of the MVDWW system ensures that any PFAS concentrations allegedly received by individuals at their taps would have varied significantly both over time and by each customer's location within the system. When an MVDWW customer opens their faucet, the water they receive consists of a blend of water from "a series of groundwater wells at several locations." Vernon Rpt. at 2; *see also* Vernon Tr., Ex. 13. The PFAS concentrations detected in these source wells vary significantly, both from one well location to the next and over time at each well. *See* Dkt. 122-17. The particular blend of source water—and, thus, the particular PFAS concentrations—each customer received at any given time depends on "a complex series of factors including well pumping schedules, customer demand for water, water levels in the storage tank, pipe diameters, and pressures." Vernon Rpt. at 2; [redacted]

[redacted]

Dr. Vernon's methodology is unreliable because it rests on an implicit and erroneous "assumption of common exposure." *Rowe*, 2008 WL 5412912, at *13. Indeed, ATSDR recognizes that the mass-balance methodology "assum[es] that contamination concentrations are approximately uniform throughout the [water distribution] system" and therefore should be used only for systems that are "not complex." Vernon Tr., Ex. 16 at 11, 42-43. Here, because the MVDWW system is "complex," Vernon Rpt. at 2, [redacted]

[redacted] But this assertion has no bearing on class certification and is therefore not "'relevant to the task at hand.'" *Cipollone*, 202 F.3d at 380 (quoting *Daubert*, 509 U.S. at 597). [redacted]

Dr. Vernon's opinion also inadmissible because he failed to rule out, or even address, potential PFAS sources other than Saint-Gobain. *See id.* at 101:25-102:4; *see also* Section II.C, *supra*. For example, "[TCI's] close proximity … to MVD Wells 7 and 8 indicate that it is a potential source of PFAS observed in these wells." Connor Rpt. at 43-44.

E. Dr. Vernon's Untimely New Opinions Are Inadmissible

[redacted] To the extent Plaintiffs seek to rely upon these opinions in support of class certification, they should be excluded for the following reasons.

First, because these opinions were not properly and timely disclosed, exclusion is warranted "unless the failure was substantially justified or is harmless." *MMG Ins. Co.*, 293 F.R.D. at 61 (citation omitted). "'Rule 26(a)(2) does not allow parties to cure deficient expert reports by supplementing them with later deposition testimony,' or the function of expert reports would be 'completely undermined.'" *Id.* (citation omitted). Plaintiffs' nondisclosure is neither "substantially justified" nor "harmless." [redacted]

Instead, Plaintiffs moved for class certification in June 2018 based on Dr. Vernon's mass-balance methodology, and failed to disclose their prior or current consultation with hydraulic modelers until just before Dr. Vernon's July 2019 deposition. Even then, Dr. Vernon did not supplement his report. Instead, Saint-Gobain was sandbagged during the deposition, to its prejudice. *See MMG Ins. Co.*, 293 F.R.D. at 61.

Second, Dr. Vernon's new opinions must be excluded because they are devoid of specifics, lack any factual basis, and are "connected to existing data only by the *ipse dixit* of the expert." *Joiner*, 522 U.S. at 146. To be admissible under *Daubert*, Wright-Pierce's model and any opinions based thereon would first need to be carefully "'evaluated against the specific facts at issue' in order to ensure [reliability]." *Valente v. Textron, Inc.*, 931 F. Supp. 2d 409, 421 (E.D.N.Y. 2013), *aff'd*, 559 F. App'x 11 (2d Cir. 2014). No such evaluation is possible here because no hydraulic model has been created. [redacted]

[redacted]

Third, because Dr. Vernon is not a modeling expert, he is not qualified to opine on the capabilities or limitations of Wright-Pierce's contemplated hydraulic model. "A scientist, however well credentialed he may be, is not permitted to be the mouthpiece of a scientist in a different specialty." *Dura Auto. Sys. of Indiana, Inc. v. CTS Corp.*, 285 F.3d 609, 614 (7th Cir. 2002); *accord Town of Wolfeboro v. Wright-Pierce, Inc.*, 2014 WL 1806843, at *2 (D.N.H. 2014).

III. PLAINTIFFS' PROPERTY VALUE DIMINUTION EXPERT'S OPINIONS ARE INADMISSIBLE

A. Dr. Bell's Methodology Is Unspecified and Untested

Plaintiffs' appraiser, Dr. Randall Bell, offers an inchoate opinion on diminution in value that does not address and cannot reliably satisfy Plaintiffs' burden on class certification. [redacted]

[redacted] Dr. Bell suggests that the method he will ultimately use is irrelevant to

class certification, positing that "*[w]ithout regard to which combination of approaches are used*, the common characteristics of the real estate market and that market's reaction to a common contaminant can be evaluated on an area-wide basis." Bell Rpt. at 11 (emphasis added).

[redacted]This extemporaneous opinion evolved throughout the course of his testimony, [redacted] But "Rule 26(a)(2) does not allow parties to cure deficient expert reports by supplementing them with later deposition testimony, or the function of expert reports would be completely undermined." *MMG Ins. Co.*, 293 F.R.D. at 61 (citation omitted).

An expert's "bald, unsupported assertion that this method will work" is insufficient to carry Plaintiffs' burden of proving that "damages are capable of class-wide measurement." *Randolph v. J.M. Smucker Co*., 303 F.R.D. 679, 697-98 (S.D. Fla. 2014). Courts are unwilling to credit such "bare bones" opinions, including at the class certification stage. *In re Dial Complete Mktg. & Sales Practices Litig*., 312 F.R.D. 36, 78 (D.N.H. 2015). At minimum, an expert proffering an opinion in support of class certification must "provide sufficient detail about the proposed methodology to permit a court to determine whether the methodology is suitable to the task at hand." *Weiner*, 2010 WL 3119452, at *9. This Dr. Bell fails to do; [redacted] But an expert's opinion that he can

"provide a method for calculating damages on a classwide basis" is insufficient where the expert offers "few concrete details ... regarding how he will conduct his hypothetical [analysis]" as "'applied to the facts in issue.'" *Miller v. Fuhu Inc.*, 2015 WL 7776794, at *22 (C.D. Cal. 2015) (citation omitted); *accord Kottaras v. Whole Foods Mkt., Inc.*, 281 F.R.D. 16, 25-26 (D.D.C. 2012). Dr. Bell's "[t]alking off the cuff—deploying neither data nor analysis—is not an acceptable methodology." *Lang v. Kohl's Food Stores, Inc.*, 217 F.3d 919, 924 (7th Cir. 2000).

Moreover, apart from its incompleteness, Dr. Bell's opinion is unreliable under the methods that he has published outside the courtroom. Dr. Bell's March 2017 article, *Junk Science Versus the Scientific Method*, states that *Daubert*'s goal of precluding "junk science" requires that the "property valuation process must be scientifically sound." Bell Tr., Ex. 2 at 1. "[T]o comply with the scientific method, the valuation process must (1) identify the problem, (2) collect relevant data, (3) propose a hypothesis, (4) test the hypothesis and (5) assess the validity of the hypothesis." *Id*. In short, "[t]o be considered 'scientific,' the methodologies must be observable, measureable and repeatable by one's peers." *Id*. at 3. Failure to meet this standard could require an expert's opinion "be partially or entirely excluded from the evidence presented to the jury." *Id*. at 1.

By his own admission, Dr. Bell's opinion here falls short of the standards he has recognized in his published literature. [redacted]

[redacted][3] These admissions mandate exclusion. An expert must "employ[] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999). Having failed to apply even his own methodology, Dr. Bell's opinion is "connected to existing data" by nothing more than his "*ipse dixit*," and is therefore inadmissible. *Joiner*, 522 U.S. at 146.

Dr. Bell's failure to test his hypothesis is fatal. Dr. Bell hypothesizes that it is "more likely than not" that diminution has occurred, Bell Rpt. at 12, [redacted] This too is contrary to Dr. Bell's published work, in which he insists that "[t]he scientific approach ***requires*** testing of the hypotheses developed in the valuation process." Bell Tr., Ex. 2 at 7 (emphasis added). The First Circuit has held that the foremost factor a court must consider as gatekeeper is "whether the expert's opinion can be or has been tested." *United States v. Shea*, 957 F. Supp. 331, 337 (D.N.H. 1997), *aff'd*, 159 F.3d 37 (1st Cir. 1998). It is not just "generating hypotheses" but also "***testing them to see if they can be falsified***" that "distinguishes science from other fields of human inquiry." *Daubert*, 509 U.S. at 593 (emphasis added). Without testing, a "hypothesis … is not 'knowledge,' nor is it 'based upon sufficient facts or data' or the 'product of reliable principles and methods ... applied ... reliably to the facts of the case.'" *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 670 (6th Cir. 2010) (quoting

[3] Essentially the only data Dr. Bell collected concerned the class representatives' homes. [redacted]

Fed. R. Evid. 702.) "[A] hypothesis that may or may not bear up when and if it is ultimately tested," is "not a reliable expert opinion admissible under the governing standards." *Mirena*, 341 F. Supp. 3d at 289. An expert's "unscientific speculation," even when offered by a "genuine scientist," is inadmissible. *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 318 (7th Cir. 1996).

[redacted] As Dr. Bell himself has stated in his published work, "[t]o be considered 'scientific,' the methodologies must be ***observable, measureable and repeatable*** by one's peers." Bell Tr., Ex. 2 at 3 (emphasis added). [redacted] Dr. Bell's "*ipse dixit*" testimony "does not substitute for scientific method; without a reliable method, result-oriented 'judgment' cannot be distinguished from scientifically or methodologically-based judgment." *Magistrini*, 180 F. Supp. 2d at 608. Dr. Bell offers a "virtually standardless" and "unacceptably manipulable" methodology, which cannot pass through *Daubert's* gate. *Mirena II*, 341 F. Supp. 3d at 247.

B. Dr. Bell Cannot Reliably Determine Damages For All Class Members

Dr. Bell must, at minimum, show "that damages are capable of measurement on a class-wide basis." *Comcast*, 569 U.S. at 34. "What matters to class certification ... is not the raising of common 'questions'—even in droves—but, rather the capacity of a classwide proceeding to generate common answers apt to drive the resolution of the litigation." *Dukes*, 564 U.S. at 350

(citation omitted). "[A] common question is one where 'the same evidence will suffice for each member to make a prima facie showing [or] the issue is susceptible to generalized, class-wide proof.'" *Tyson Foods* 136 S. Ct. at 1045 (citation omitted). Yet "[d]issimilarities within the proposed class are what have the potential to impede the generation of common answers," *Dukes*, 564 U.S. at 350, and such a class may not proceed where "members of a proposed class will need to present evidence that varies from member to member." *Tyson Foods*, 136 S. Ct. at 1045. The operative question is whether Dr. Bell's opinion enables Plaintiffs to "resolve an issue that is central to the validity of each one of the claims in one stroke." *Dukes*, 564 U.S. at 350.

Dr. Bell has not shown that he has any method that can reliably do what Rule 23 requires: that is, to provide a common means of determining the diminution in value damages of every member of the putative class. [redacted] The record here shows—and Dr. Bell's report and testimony confirm—that there are scores of individual characteristics relative to each property that will impact its value and will vary across the proposed class area. But Dr. Bell does not describe any method that would allow him to reliably account for those individual differences on a common basis.

1. Diminution In Value Claims Are Pervasively Individualized

The record here is replete with individual issues that affect diminution in property value. [redacted] These differences bear out when analyzing the available data. [redacted]

[redacted]

The properties in the proposed class area also vary according to type and the nature of the interests in which they are held. Initially, Dr. Bell makes the erroneous supposition that this case only "involves ***single family homes*** that are in proximity to the Saint-Gobain manufacturing facility." Bell Rpt. at 4 (emphasis added). [redacted] And as the literature instructs, "[i]f the proposed class contains a wide range of property types and interests, then valuing them or estimating impacts on them on a common, class-wide basis would be difficult or perhaps impossible."[4]

The properties in the class area will also vary considerably with regard to their proximity to conditions that may have a positive or negative effect on value. For example, "[s]ome properties within the Proposed Private Well Class are located in various developments or subdivisions, varying in age, size and housing quality. Some properties are located along highly-trafficked

[4] Jackson T., *Real Property Valuation Issues in Environmental Class Action*s, The Appraisal Journal (Spring 2010), at 142 (hereinafter "*Jackson*.")

thoroughfares such as Charles Bancroft Highway, while others are located on quiet dead-end streets such as Chadsworth Court. [redacted]

Even among the named Plaintiffs there are individual characteristics that would have an impact on value. [redacted]

As the appendices to Dr. Bell's report explain, there are "literally hundreds" of detrimental conditions "that can influence property values, and … can create valuation challenges that go well beyond the scope of the three traditional approaches to value." Bell Rpt. at 49. [redacted].

The properties in the putative class also present individual questions concerning the presence, amount, and source of PFOA. [redacted] This keystone assumption, however, is wrong. As Saint-Gobain has discovered, Plaintiffs' counsel has alleged similar claims against another PFOA user—Textiles Coated International—in neighboring Amherst, N.H. *See Hermens v. Textiles Coated Inc.*, No. 216-2017-cv-524, slip. op. at 12 (N.H. Super. Ct. Mar. 16, 2018). This New Hampshire state court action seeks to certify classes with near-identical property and medical monitoring classes less than ten miles from the site at issue here and near certain municipal water wells. *Id.*; NHDES PFAS Sampling Map. [redacted][5]

[5] [redacted] But regardless of whether blame rests on Plaintiffs' counsel for withholding this

[redacted]

[redacted] Dr. Bell's testimony thus makes clear that here, as in *Asacol*, "whether any given individual was injured (and therefore has a claim) turns on an assessment of the individual facts concerning that person." 907 F.3d at 55.

Courts have recognized the inherently individualized nature of diminution in value damages in similar cases. For example, "whether a plaintiff's property is contaminated, the source(s) of such contamination, the extent of such contamination, the cause and timing of harm, and the resulting damage measured in diminution of property value, are all questions that will require plaintiff-by-plaintiff scrutiny." *LaBauve v. Olin Corp*., 231 F.R.D. 632, 673 (S.D. Ala. 2005.) "[P]roof of any Plaintiffs' claim of negligence, nuisance or trespass 'will require distinctly

information from their own expert or Dr. Bell for assuming only one source of contamination without appropriate support, it is clear that he lacks sufficient knowledge to form reliable opinions.

case-by-case inquiries into the facts' … including numerous in-home factors, which necessitates testing each home individually to determine whether each home has contamination levels above background and whether the contamination can be attributed" to Saint-Gobain. *Lee-Bolton*, 319 F.R.D. at 384-85 (citations omitted). Any "common method for mass appraisal," such as the options proposed by Dr. Bell, "will similarly need to account for numerous individual characteristics of the homes and surrounding neighborhoods, which are not uniform throughout the proposed class." *Id*. at 386.

2. No Reliable Class-wide Method Exists To Address Valuation Issues

Rather than demonstrate the ways in which he will address these critical differences, Dr. Bell simply offers a conclusory assertion that he *can* address them through a suite of options—apparently "[w]ithout regard to which combination of approaches are used." Bell Rpt. at 11. [redacted]. Dr. Bell cannot avoid scrutiny of the reliability of his methods by declining to apply them.

[redacted], it is apparent that Dr. Bell lacks sufficient information to determine whether his proposed methods are feasible. [redacted]

[redacted]

But "[a] real estate appraiser, no matter how well qualified he may be in general, [] is not an expert on the value of property which is unknown to him or is situated in an area which is unfamiliar to him." *United States v. 60.14 Acres of Land, More or Less, in Warren & McKean Ctys., State of Pa.*, 362 F.2d 660, 668 (3d Cir. 1966). [redacted]

The limits of the mass appraisal methods that Dr. Bell proposes are well known. [redacted] Even then, there are "issues associated with the use of mass appraisal techniques developed for intended uses associated with *ad valorem* taxation when applied to individual properties." *Jackson* at 147. Specifically, "[m]ass appraisal techniques are appropriate for what they are typically used for, i.e., the development of jurisdiction-wide assessments, as their individual property estimation errors tend to average out over a large number

of properties." *Id.* Dr. Bell touts this as a positive, stating that this allows "all class properties, including those in pockets with more limited market data, [to] benefit from the large amounts of data and the study as a whole." Bell Rpt. at 8. Yet "[i]n estimating the value of individual properties, [] errors can be large. This creates problems in a class action context where damages and compensation may ultimately be paid to property owners based on the characteristics of their individual properties." *Jackson* at 147. [redacted] They are even more inadequate here.

Because of these methodological limitations on mass appraisals, individual challenges to valuation are permitted. [redacted] Yet he proposes an undefined mass appraisal method of class-wide determination of value based on aggregate data that would permit no such individual challenges to his valuation opinions—whether by Saint-Gobain or by putative class members. Because class actions, fundamentally, "are the aggregation of individual claims," *Asacol*, 907 F.3d at 56, due process and the Rules Enabling Act require that any aggregate treatment not "do away with the rights" that a party "would customarily have to raise plausible individual challenges" on the certified claims. *Id.* at 51-52. Dr. Bell's proposal to make such valuations on an aggregate basis, without any individualized adjustment for over- or under-compensation, is not permitted by Rule 23.

While Dr. Bell has "indicated that he will be able to utilize one or more of a laundry list of real estate analytical techniques to quantify the reduction in property values," "he has not applied those methodologies to class members' properties to date, and [is] vague as to his intentions for doing so." *LaBauve*, 231 F.R.D. at 676. This is insufficient. Dr. Bell admits that there are dozens—if not hundreds—of individual differences that may impact the value of each putative class member's home, yet his inchoate report fails to explain the way in which he will account for them. [redacted] Dr. Bell's "rosy, conclusory prognostications of a 'common, formulaic methodology' obscure numerous conceptual and practical obstacles almost certain to negate straightforward use of an across-the-board formula." *LaBauve*, 231 F.R.D. at 676. His testimony must be excluded.

CONCLUSION

For the foregoing reasons, the Court should exclude Plaintiffs' class certification experts.

Dated: September 6, 2019

Respectfully submitted,

/s/ *Jeremy T. Walker*
Bruce W. Felmly (N.H. Bar No. 787)
Jeremy T. Walker (N.H. Bar. No. 12170)
MCLANE MIDDLETON, P.A.
900 Elm Street
Manchester, NH 03101
Direct: (603) 628-1448
Fax: (603) 625-5650
bruce.felmly@mclane.com
jeremy.walker@mclane.com

Sheila L. Birnbaum (*Pro Hac Vice*)
Mark S. Cheffo (*Pro Hac Vice*)
Bert L. Wolff (*Pro Hac Vice*)
Rachel Passaretti-Wu (*Pro Hac Vice*)
Lincoln Davis Wilson (*Pro Hac Vice*)
DECHERT LLP
1095 6th Ave.
New York, NY 10036
Telephone: (212) 698-3500
Fax: (212) 698-3599
sheila.birnbaum@dechert.com
mark.cheffo@dechert.com
rachel.passaretti-wu@dechert.com
bert.wolff@dechert.com
lincoln.wilson@dechert.com

Attorneys for Defendants Saint-Gobain Performance Plastics Corporation and Gwenael Busnel

CERTIFICATE OF SERVICE

I hereby certify on this 6th day of September, 2019, the public version this document was filed through the Electronic Case Filing System of the United States District Court for the District of New Hampshire and will be served electronically by the court to the Registered Participants identified in the Notice of Electronic Filing (NEF) and that a confidential version containing no redactions was served on counsel of record by electronic mail.

Dated: September 6, 2019

/s/ *Jeremy T. Walker*
Jeremy T. Walker